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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/514,141	02/28/2000	Man-Chun Tse	13313	9149

32292 7590 03/24/2005

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EXAMINER	
LAO, LUN S	

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/514,141	TSE ET AL.	
	Examiner	Art Unit	
	Lun-See Lao	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is response to the amendment filed on 02-25-2005. Claims 1, 4 and 7 have been amended. Claims 1-11 are pending.

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deluca (US PAT.6,434,239) in view of Gliebe (US PAT.5,478,199).

Consider claim 1, DeLuca teaches that generating an exciting sound wave dominated by a primary frequency generally within an audible range and different from a frequency of the primary tone of the noise (see figs.1-2 and col.2 lines 44-59, col.3 lines 15-60);and modulating the primary tone of the noise (20, sound source) using the generated exciting sound wave to excite a sound wave of the noise propagates so that sound energy of the noise is re-distributed from the frequency of the primary tone to a

broad range of side bands and the amplitude of the primary tone of the noise is reduced (see figs.1-2 and col.2 lines 44-59, col.3 lines 15-60); but Deluca does not teach that using the generated exciting sound wave to excite within the duct housing a fluid medium.

However, Gliebe teaches a method for suppressing noise dominated a primary tone from a noise source within a duct housing comprising:

using the generated exciting sound wave to excite within the duct housing a fluid medium (see fig. 1, 26 and see col. line 15-col.6 line 67)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gliebe into DeLuca to provide a plurality of anti-noise sound transmitters disposed in the fan duct.

Consider claims 2-3, Gliebe teaches the fluid medium is air (see fig.1, 26); and the exciting sound wave is generated by a force of a fluid flow acting on a mechanical device (see fig.1, 30 outlet guide vanes (OGV) or stator vanes) and col.5 lines 15-46).

Consider claim 4 DeLuca teaches an exciting sound wave generator (see fig.2, 40,50,70) associated with the generator (40,50,70) generating an exciting sound wave dominated by primary frequency generally within an audible range and different from a frequency of the primary tone of the noise to excite the air and modulated the primary tone of the noise so that sound energy of the noise is re-distributed from the frequency of the primary tone to a broad range of side bands and the amplitude of the primary tone of the noise is reduced (see figs.1-2 and col.2 lines 44-59, col.3 lines 15-60); but DeLuca does not teach an elongated housing surrounding the noise source, the

housing having a first and second openings on opposite ends, wherein the a sound wave from the noise source propagates in air outwardly towards the first and second openings.

However, Gliebe teaches a noise attenuation system for suppressing noise Dominated by a primary tone from a noise source comprising:

an elongated housing (see fig.1, 10) surrounding the noise source, the housing having a first (26) and second (18) openings on opposite ends, wherein the a sound wave from the noise source propagates in air outwardly towards the first (26) and second (18) openings (see ol.5 line 15-col.6 line 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gliebe into DeLuca to provide a plurality of anti-noise sound transmitters disposed in the fan duct.

Consider claims 5-6, Gliebe teaches the exciting sound wave generator (see fig.1, 36a, 36b and 30 (outlet guide vanes (OGV) or stator vanes)) is positioned on an inner wall of the housing; and the exciting sound wave generator comprises a mechanical device (see fig.1,30 and fig.3,30) excited by a force of air flow to generate the exciting sound wave (see col.5 lines 15-46).

Consider claim 7 DeLuca teaches an exciting sound wave generator (see fig.2, 40,50,70) associated with the generator (40,50,70) generating an exciting sound wave dominated by primary frequency generally within an audible range and different from a frequency of the primary tone of the noise to excite the air and modulated the primary tone of the noise so that sound energy of the noise is re-distributed from the frequency

of the primary tone to a broad range of side bands and the amplitude of the primary tone of the noise is reduced (see figs.1-2 and col.2 lines 44-59, col.3 lines 15-60); but DeLuca does not teach a nacelle surrounding the jet engine (16), the nacelle having an inlet and an outlet for receiving and exhausting air flow respectively, wherein a sound wave of the noise produced from the jet engine propagates outwardly towards the inlet and outlet.

However, Gliebe teaches a noise attenuation system for suppressing noise dominated by a primary tone from a jet engine comprising:

a nacelle (see fig.1, 22) surrounding the jet engine (16), the nacelle (22) having an inlet (24b) and an outlet (24c) for receiving and exhausting air flow respectively, wherein a sound wave of the noise produced from the jet engine (16) propagates outwardly towards the inlet (24b) and outlet (24c)(see col.5 line 15-col.6 line 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gliebe into DeLuca to provide a plurality of anti-noise sound transmitters disposed in the fan duct.

Consider claims 8-9, Gliebe teaches the exciting sound wave generator (see fig.1, 36a, 36b and 30 (outlet guide vanes (OGV) or stator vanes)) is positioned on an inner wall of the nacelle (22) at the inlet; and the exciting sound wave generator (see fig.1, 36a, 36b and 30 (outlet guide vanes (OGV) or stator vanes)) comprises a mechanical device (30) excited by a force of air flow to generate the exciting sound wave (see fig.3, 30 and col.5 lines 15-46).

Consider claims 10-11, Gliebe teaches the mechanical device (see fig.1, 30 and fig.3, 30) comprises a fence member (a plurality of circumferentially spaced apart outlet guide vanes (OGVs), or stator vanes 30 extend radially between outer and inner duct walls 24a,d) exposed to the air flow entering the inlet (24b) of the nacelle (22); and the mechanical device (see fig.1, 30 and fig.3, 30) comprises an aperture defined in the inner wall, an air flow jetting from the aperture into the nacelle (22 and see col.5 lines 15-46).

Response to Arguments

5. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bourk (US PAT. 5,182,774) is cited to show other the fan and compressor noise attenuation.

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Lao,Lun-See whose telephone number is (703) 305-2259 The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao,Lun-See
Patent Examiner
US Patent and Trademark Office
Crystal Park 2
(703305-2259

DUC NGUYEN
PRIMARY EXAMINER